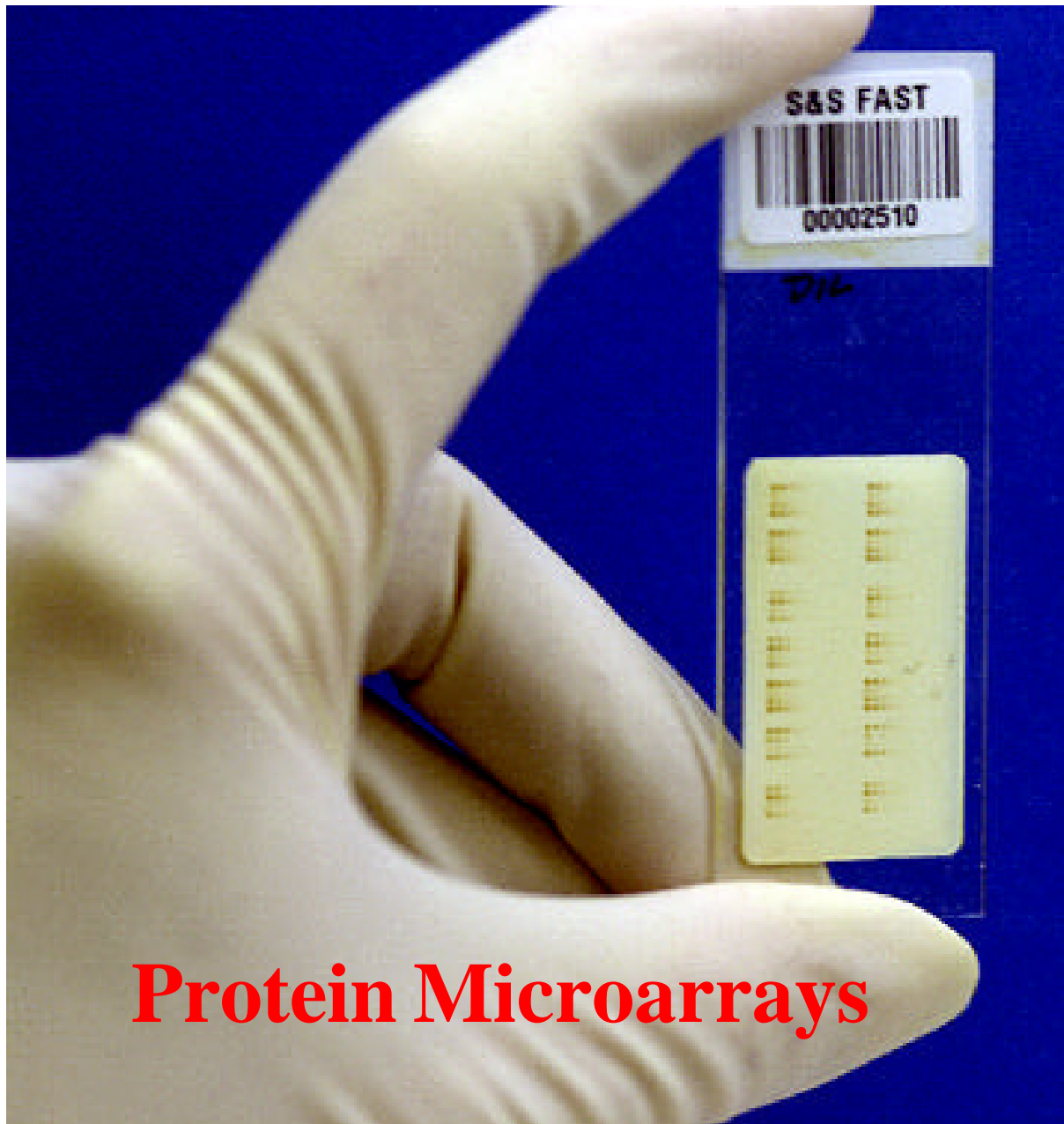
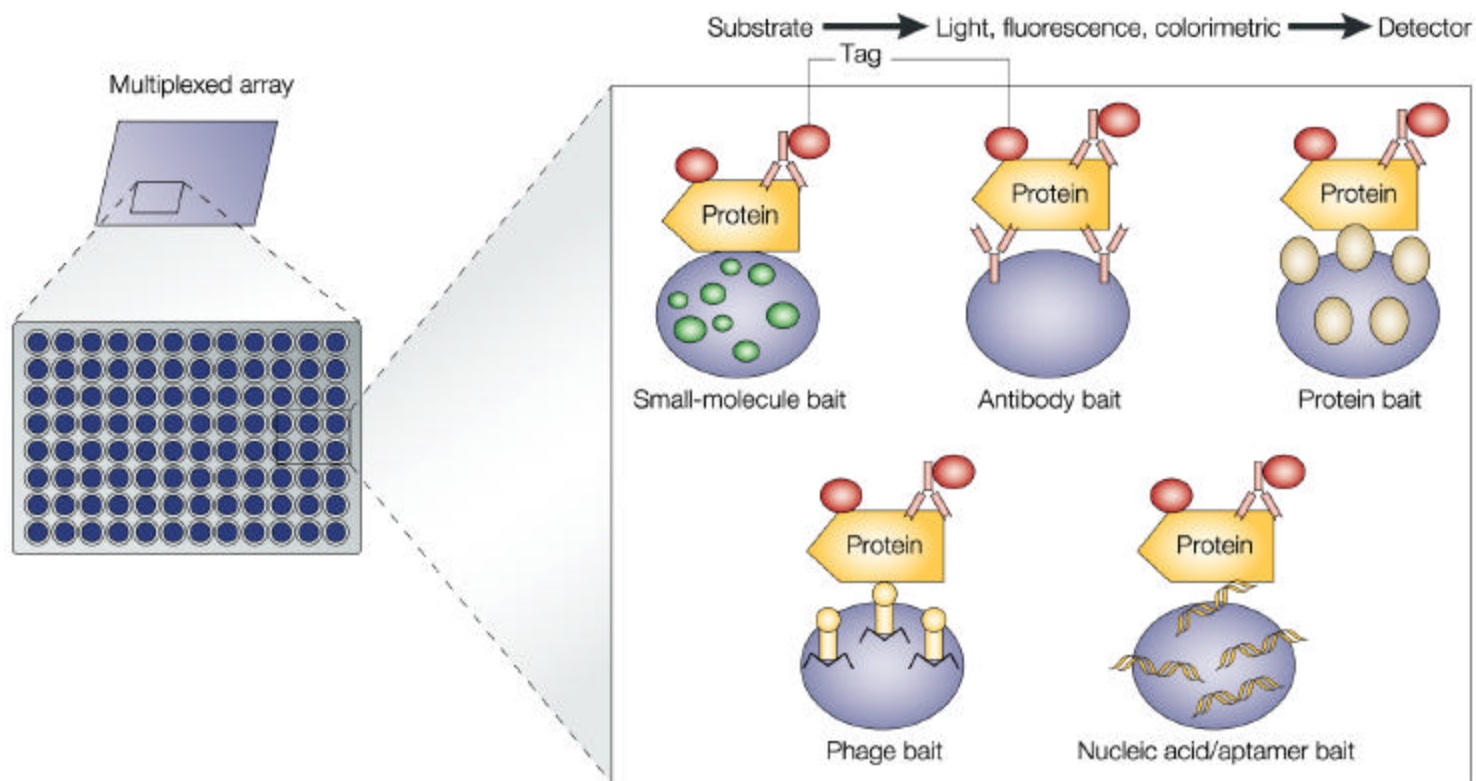


**Differentially expressed proteins identified to date: >400  
Breast, Prostate, Ovary, and Esophageal Cancer**



**Protein Microarrays**



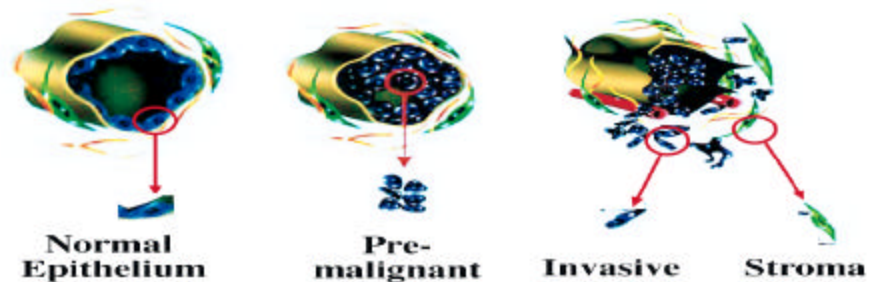
# A New Protein Array Technology: Reverse Phase Protein Array

Oncogene 2001

Coupling Laser Capture Microdissection  
With High Throughput Protein Arrays

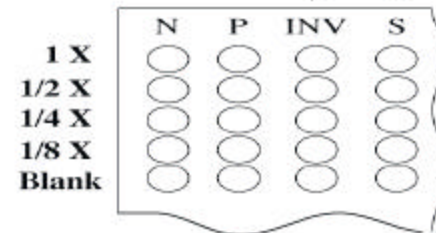
Patient biopsy tissue  
cells are microdissected:

2000 cells = 100 arrays



Each patient sample is arrayed in a miniature  
dilution curve:

Always in linear dynamic range of  
any antibody/ analyte pair

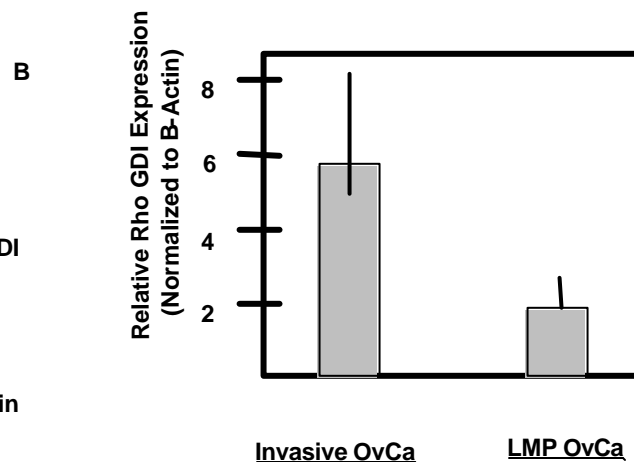
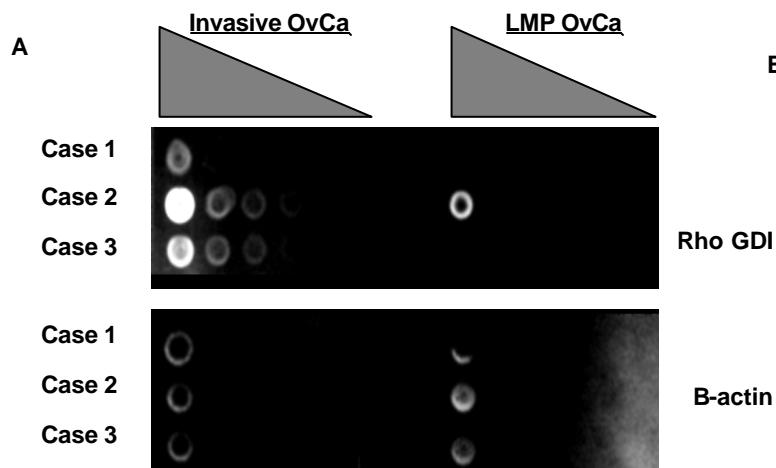
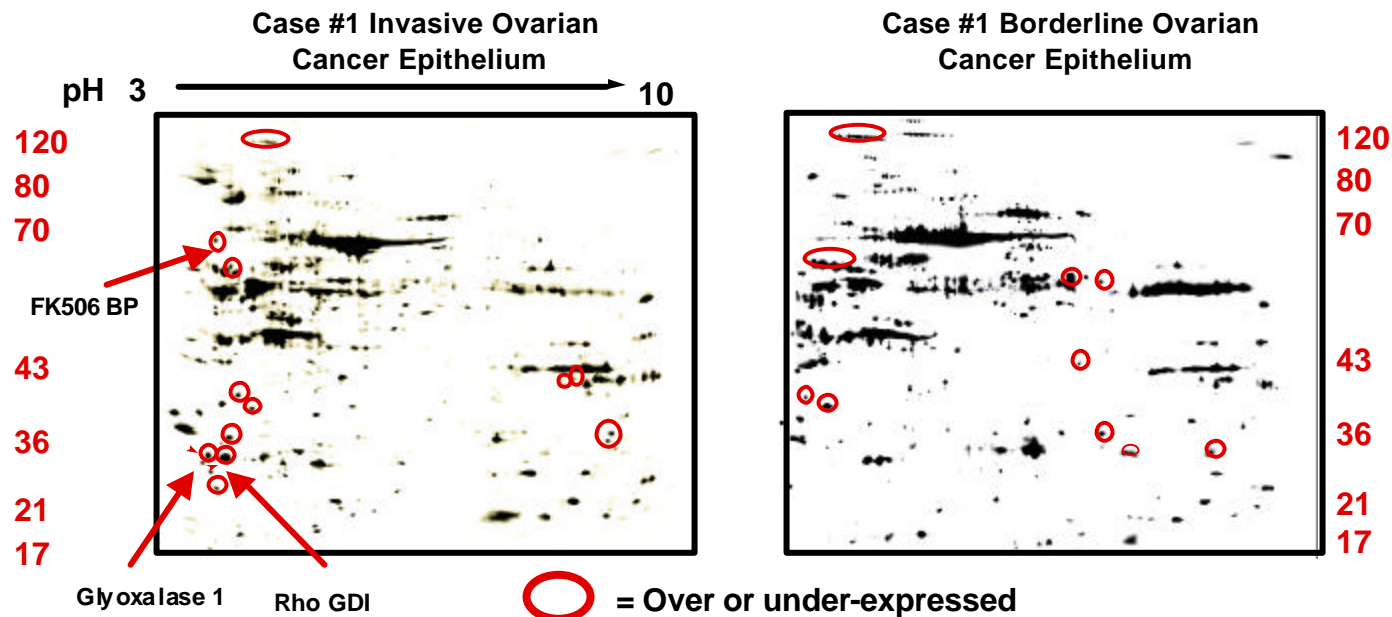


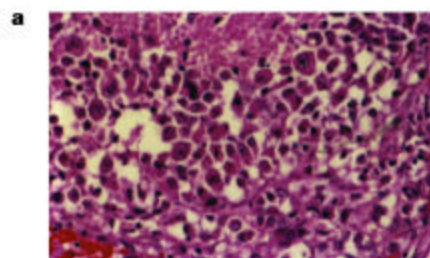
Arrays probed  
with labeled  
amplified antibody:

e.g. prostate cancer progression  
From one patient probed with  
Phospho-ERK antibody

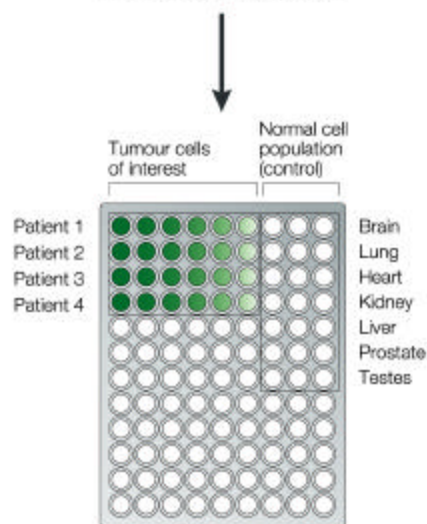


# Protein Microarrays for High-throughput Target Validation

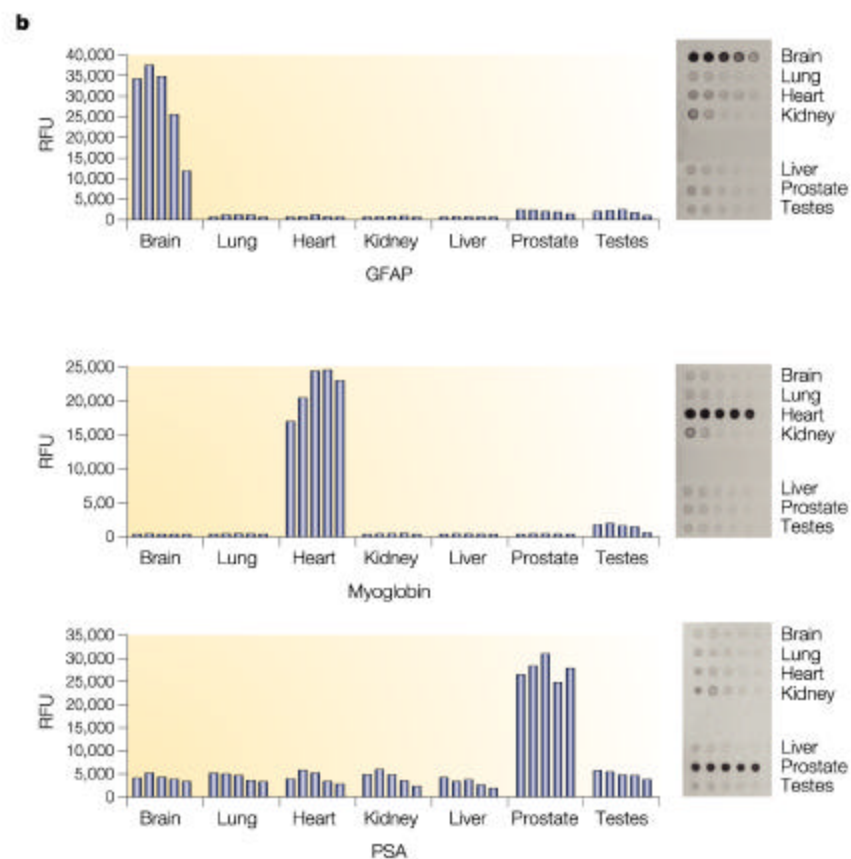




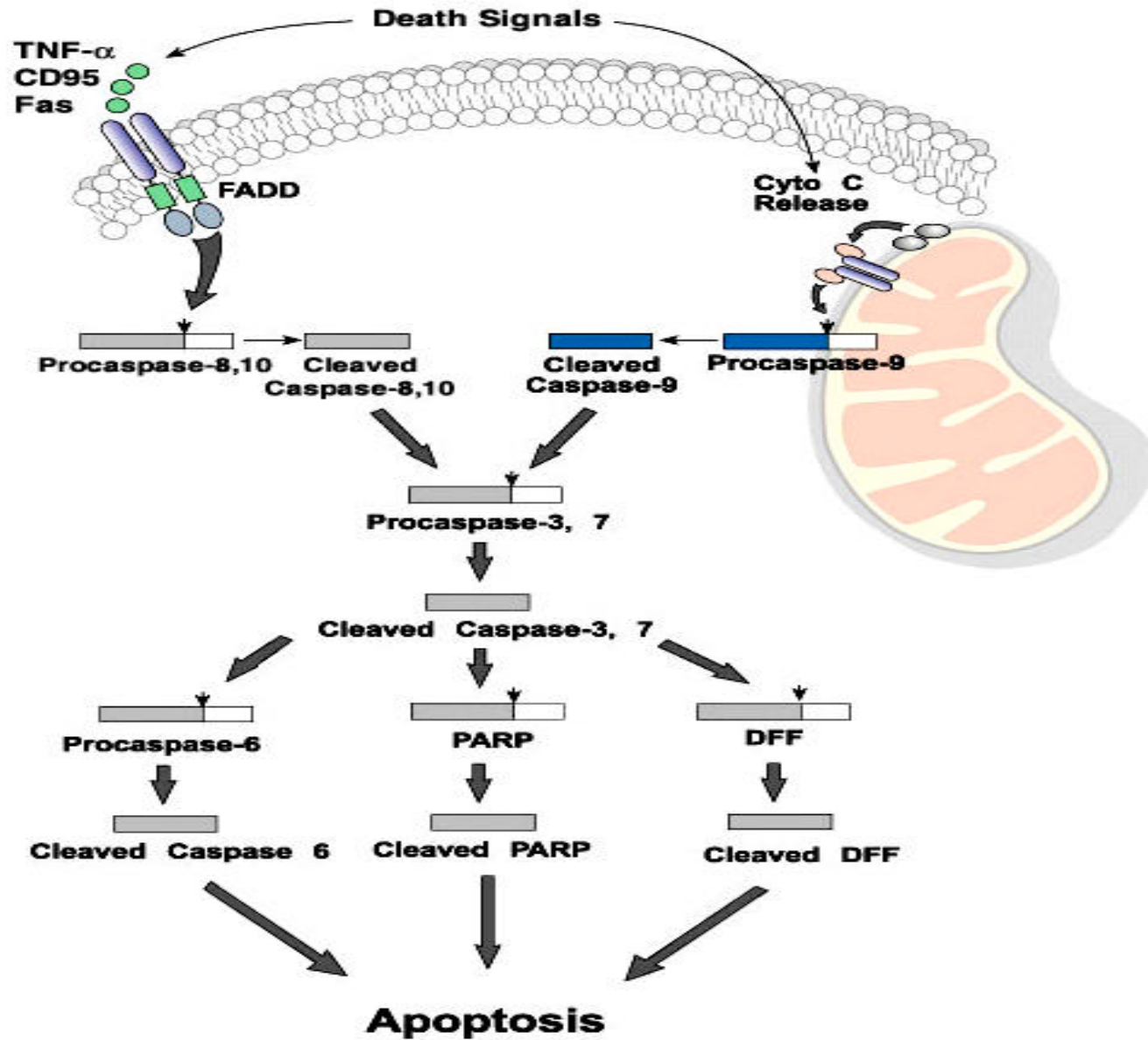
Microdissection of tissue cells



Analysis of vaccine candidates



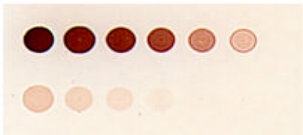
# Cell Survival Pathways



# Protein Microarrays

## Validation of Apoptosis Pathway

Cleaved-Caspase 3



Cytochrome-C treated Jurkat cells

Untreated Jurkat cells

Cleaved-Caspase 7



Cytochrome-C treated Jurkat cells

Untreated Jurkat cells

Caspase 7



Cleaved-Caspase 9



Cytochrome-C treated Jurkat cells

Untreated Jurkat cells

Caspase 9



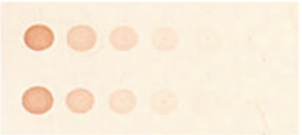
Cleaved-PARP



Cytochrome-C treated Jurkat cells

Untreated Jurkat cells

PARP



Negative Control



Cytochrome-C treated Jurkat cells

Untreated Jurkat cells